

Amendment to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended): A Ziegler-Natta catalyst precursor composition comprising the spray-dried reaction product of a magnesium compound, a non-metallocene titanium compound, and at least one non-metallocene compound of a transition metal other than titanium, said non-metallocene compound of a transition metal other than titanium comprising a hafnium compound and the molar ratio of the titanium compound to hafnium compound is from 100/1 to 1/20.

2. (currently amended): The precursor composition of Claim 1 ~~additionally comprising a filler~~ wherein the molar ratio is from 10/1 to 1/10.

3. (currently amended): The precursor composition of Claim-1 wherein the precursor composition has a molar ratio of Mg/Ti/Hf of x/1/y where x is from 2 to 10 and y is from 0.1 to 1.22 ~~wherein the filler is silica.~~

4. (currently amended): A process for preparing a Ziegler-Natta precursor composition comprising forming a solution of a magnesium, titanium and transition metal compound other than titanium in a primary diluent and spray drying the liquid composition to form solid particles of the precursor composition, the primary diluent being an organic compound containing hydroxyl functionality.

5. (currently amended): The process of Claim 4 wherein the primary diluent is an alcohol ~~comprises an organic compound containing hydroxyl functionality, ether functionality, or a mixture of hydroxyl and ether functionality.~~

6. (currently amended): ~~A~~ The process of Claim 4 further comprising a secondary diluent that is a siloxane for conversion of a catalyst precursor composition into a procatalyst composition for use in Ziegler Natta polymerization processes comprising halogenating a precursor composition according to claim 1.

7. (currently amended): ~~A—The process according to Claim 6—5 wherein the halogenating agent comprises an organoaluminum halide halogenating agent, an organoboron halide halogenating agent, or a mixture thereof~~primary diluent is the only diluent.

8. (currently amended): A catalyst composition comprising a solid mixture formed by halogenation of:

A1) ~~a spray dried catalyst precursor comprising the reaction product of a magnesium compound, a non-metallocene titanium compound, and at least one non-metallocene compound of a transition metal other than titanium~~the spray dried precursor of Claim 1, with

A2) a halogenating agent comprising an organoaluminum halide, ~~and~~ organoboron halide, or a mixture thereof.

9. (original): The catalyst composition of Claim 8 wherein the spray dried catalyst precursor further comprises at least one filler.

10. (original): The catalyst composition of Claim 8 wherein the filler is surface modified fumed silica.

11. (currently amended): The catalyst composition of claim 8 wherein ~~the precursor comprises magnesium, titanium, and hafnium~~the halogenation agent is employed in molar quantities based on the hafnium compound from 1/1 to 1/10.

12. (currently amended): The catalyst composition of claim 8 wherein the ~~molar ratio Mg/Ti/Hf in the catalyst precursor is x/1/y, where x is a number from 2 to 10, and y is a number from greater than 0 to 10~~halogenation agent is employed in molar quantities based on the hafnium compound from 1.5/1 to 2.5/1.

13. (original): The catalyst composition of claim 8 wherein the halogenating agent comprises ethylaluminum sesquichloride.

14. (currently amended): A process for forming a Ziegler-Natta catalyst composition according to claim 8 comprising halogenating:

A1) a spray-dried catalyst precursor comprising the reaction product of a magnesium compound, a non-metallocene titanium compound, and at least one non-metallocene compound of a transition metal other than titanium, wherein the one non-metallocene compound of a transition metal other than titanium is comprised of a hafnium compound, with

A2) a halogenating agent comprising an organoaluminium halide, an organoboron halide or a mixture thereof wherein the halogenating agent is employed in molar quantities based on the hafnium compound from 1/1 to 1/10.

15. (original) An olefin polymerization process comprising contacting one or more C₂₋₂₀ olefins under polymerization conditions with a catalyst composition according to any of claims 8-13 or prepared according to the process of Claim 14 and an organoaluminum activating cocatalyst.

16. (original): A process according to Claim 15 wherein the cocatalyst is triethylaluminum.

17. (new): The olefin polymerization process of Claim 15, wherein the olefin polymer that is formed has at least a high molecular weight tail.

18. (new): The olefin polymerization process of Claim 17, wherein the olefin polymer has a bimodal molecular weight distribution.

19. (new): The precursor of Claim 1, wherein each of the compounds contains a halide.

20. (new): The precursor of Claim 1, wherein the titanium compound is titanium trichloride or titanium trichloride complexed with AlCl₃ and the other transition metal compound comprised of Hafnium is Hafnium tetrachloride.

21. (new): A process for conversion of a catalyst precursor composition into a procatalyst composition for use in Ziegler-Natta polymerization processes comprising halogenating a precursor composition comprised of a Ziegler-Natta catalyst precursor composition comprising the spray-dried reaction product of a magnesium compound, a non-metallocene titanium compound, and at least one non-metallocene compound of a transition metal other than titanium, said non-metallocene compound of a transition metal other than titanium comprising a hafnium compound and the ratio of the titanium compound to hafnium compound is from 100/1 to 1/20.

22. (new): The process of Claim 19, wherein the halogenating agent comprises an organoaluminum halide halogenating agent, an organoboron halide halogenating agent, or a mixture thereof.